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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE
BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Docket No. DKT 99083

In the Application of:

JOHN A. HUMMEL ET AL.

U.S. Serial No.: 09/840,434

Filed: APRIL 23, 2001

For: BACK DRIVE SILENT CHAIN
SYSTEM WITH LOW PROFILE
SPROCKET

Confirmation No.: 4174

Examiner: VICKY A. JOHNSON

Group Art Unit: 3682

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REPLY IN SUPPORT OF APPEAL

Mail Stop Appeal Brief - Patents
Commissioner of Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

This Brief in Reply is submitted to respond to the Examiner's Answer ("Answer") in this appeal that was mailed on November 3, 2004.

APPELLANTS DISAGREE WITH THE EXAMINER'S STATEMENT CONCERNING
GROUPING OF CLAIMS ON APPEAL

The Answer states at page 2 that all claims at issue, claims 1 – 9, stand or fall together because no statement that the grouping does not stand or fall together was submitted. It is correct that no such statement was submitted. It is not correct that claims 1 – 9 stand or fall

together because no such statement was submitted. Claims 1 – 6 and 9 stand or fall together, and claims 7 and 8 stand or fall together.

The Answer cited 37 C.F.R. §1.192(c)(7) as supporting the statement that claims 1 – 9 stand or fall together because no statement that they do not was filed. That Rule does not support that position, but rather requires that claims 1 - 6 and 9 stand or fall together and that claims 7 and 8 stand or fall together. 37 C.F.R. §1.192(c)(7) provides that:

Grouping of claims. **For each ground of rejection which appellant contests** and which applies to a group of two or more claims, the Board shall select a single claim from the group and shall decide the appeal as to the ground of rejection on the basis of that claim alone unless a statement is included that the claims of the group do not stand or fall together and, in the argument under paragraph (c)(8) of this section, appellant explains why the claims of the group are believed to be separately patentable. Merely pointing out differences in what the claims cover is not an argument as to why the claims are separately patentable.

Emphasis added. Two grounds of rejection (groupings of claims) are at issue in this appeal, rejection of claims 1 – 6 and 9 under 35 U.S.C. §102(b) and rejection of claims 7 and 8 under 35 U.S.C. §103. See status of claims at page 2 of the Appellants' Brief on Appeal ("Appeal Brief") and the Examiner's agreement at Answer page 2. Each ground of rejection was separately argued. See Appeal Brief at pp. 4 – 8 and 9 – 11. Each group of claims that is the subject of a rejection stands or falls separately from the other group of claims that is the subject of the other rejection.

**THE ANSWER ARGUES THAT CLAIMS 1-6 AND 9 ARE UNPATENTABLE
BY CONTRADICTING THE CITED REFERENCE AND IMPROPERLY RELYING ON
THE FIGURES**

Appellants' Brief pointed out that the appealed rejection of the Office Action dated January 13, 2004 ("Office Action") failed to address the requirements of the rejected independent claims 1 and 5 that contact between the chain and sprocket occur along a surface of the chain link. In the Answer, for the first time, those requirements are addressed. The Answer argues that Ichikawa (US 5,989,140) discloses contact of a chain link with a sprocket surface along at least a majority of a contacting surface of the chain link. As support, the Answer cites to a section of Ichikawa that states that a flat surface of a chain link contacts an arcuate surface of a sprocket. The Answer also asserts that Figure 1 of Ichikawa shows the arcuate sprocket surface in contact with more than half the length of the flat link surface. Answer at p. 3. Neither of those disclosures support the Answer's assertion of contact along a surface.

The cited section of the Ichikawa specification states that a flat surface of the chain link contacts an arcuate surface of the sprocket tooth. Ichikawa col. 4 lines 20 – 33. That contact must be, as established by elementary geometry, at the one point at which the flat surface contacts the arcuate surface. That single point of contact is not the extended and conforming contact that is required by claims 1 and 5, but rather is specifically the isolated contact of two surfaces having different and non-conforming shapes.

The argument that Figure 1 of Ichikawa shows substantial contact is based on a misuse of that drawing. The assertion that Figure 1 shows substantial contact contradicts

that specific description of non-conforming contact. The drawings of Ichikawa cannot be used to contradict the consistent and unambiguous teaching of Ichikawa that the sprocket and chain contact each other at the single location at which the flat link surface and arcuate sprocket surface contact each other. *In re Andersen*, 743 F.2d 1578, 1581, 223 USPQ 378, 380 (Fed. Cir. 1984). Further, drawings cannot be relied on for details that they were obviously not intended to convey. *In re Wilson*, 312 F.2d 449, 454, 136 USPQ 188, 192 (CCPA 1963). Figure 1 of Ichikawa depicts a section of chain engaging two sprockets. It is clearly not intended to depict the detail of contact between a single tooth of a sprocket and a link of the chain.

Appellants' Brief pointed out that the appealed rejection of the Office Action does not state that Ichikawa discloses a chain that meets the requirement of claim 1 for a link surface "that approximates the distance from a center of a member joining the link to one adjacent row of links to a center of a member joining the link to another adjacent row of links." In response, addressing this claim requirement for the first time, the Answer points to Figure 3 of Ichikawa to argue that guide train plate 3 of Ichikawa has a surface F that satisfies this requirement. Answer at 3. That response ignores the additional requirement of claim 1 that the link contacts the sprocket protrusion "for driving contact with the low profile protrusions." The chain of Ichikawa is driven by the guide plates 7 and the articular train plates 2A that have sub-teeth that engage the teeth (protrusions) of the sprocket. Ichikawa col. 4 lines 1 – 5. The surface F of plate 3 has no such sub-teeth and does not engage the sprocket for driving contact. While the

surface F of plate 3 meets the length requirement of claim 1, it does not meet the “driving contact” requirement.

Ichikawa does not teach a sprocket having low profile protrusions and a chain having surfaces that contact those protrusions along a significant length for driving contact as required by claims 1 and 5. Ichikawa teaches a sprocket having teeth that form an arcuate surface that supports a flat surface of a chain link at a single location. The sprocket of Ichikawa does not engage the link for driving contact by contacting surfaces but rather by sub-teeth that engage the sprocket. Ichikawa does not disclose applicants’ invention as claimed by claims 1 – 6 and 9.

**THE ANSWER ARGUES NEW GROUNDS FOR REJECTION OF
CLAIMS 7 AND 8 - ONE OF WHICH DIRECTLY CONTRADICTS
THE APPEALED REJECTION**

The Answer addresses claims 7 and 8 separately in ways that the appealed rejection of the Office Action does not. The appealed rejection of claims 7 and 8 under 35 U.S.C. §103 asserts that those claims are unpatentable over Ichikawa in view of Aydelott (US 270,723). Action at ¶4. Claim 7 requires that surfaces of a back-side sprocket be “generally flat” and claim 8 requires that the surfaces be “generally flat” between their ends and that the surfaces extend outwardly near their ends. The appealed rejection is of both claims and asserts only that Aydelott “disclose [sic] a sprocket with generally flat sprocket surfaces that extend from the sprocket near the first and second ends.” Action at ¶4. Apparently recognizing that the appealed rejection does not, as the Appeal Brief points out, address the surface requirements of claims 7 and 8, the Answer argues that the surface requirements of claim 7 are met by two

different prior art disclosures, and that the surface requirement of claim 8 is met by one prior art disclosure. None of the three disclosures that are identified by the Answer are relied on by the appealed rejection, and two of the three are completely new bases that are not found in the appealed rejection.

The Answer argues that claim 7 is unpatentable first because “[t]he Ichikawa reference shows in Figures [sic] 1 the back-side sprocket surfaces are generally flat, specifically, the sides of the teeth and the top of the tooth 6A,” and second that “Adylott shows the contact surface of the sprocket surfaces are generally flat between the first and second ends and that extend outwardly from the back side surface.” Action at p. 4. As to the alleged Ichikawa disclosure argued by the Answer, the appealed rejection says nothing of Ichikawa having flat back-side sprocket surfaces. In fact, it specifically says the opposite, that Ichikawa “**does not disclose** the back side sprocket surfaces as **being generally flat** that extend that extend from the sprocket near the first and second ends.” Action at ¶4 (emphasis added). The appealed rejection is correct as to Ichikawa not disclosing flat surfaces, and the Answer is wrong.¹ In relying on the Adylott disclosure, the Answer repeats the appealed rejection without addressing the arguments raised by the Appeal Brief and additionally differs from the appealed rejection in a way that is irrelevant to claim 7. The appealed rejection says nothing of the allegedly flat surfaces of Adylott extending outwardly from the back surface. The addition of an argument directed to an outwardly extending surface is irrelevant because claim 7 includes no such requirement. Adylott does not disclose the structure required by claim 7 for the reasons argued in the Appeal Brief.

¹ Further, the Answer’s first argued basis for unpatentability of claim 7 is improper because “an examiner’s answer must not include a new ground of rejection.” 37 C.F.R. §1.193(a)(2).

As to claim 8, the Answer argues that both Aydelott and Ichikawa “show that the sprocket teeth sides extend outwardly from the back side surface and the surfaces between the teeth are generally flat.”² The argument that surfaces between teeth of a sprocket meet the requirement of claim 8 ignores the other requirements of claim 8 that the flat surfaces meet to form low profile protrusions. Those requirements are found in claim 6 from which claim 8 depends. In addition to being presented for the first time in the Answer, the argued basis for unpatentability does not meet the requirements of claim 8.

The Answer raises new and insufficient grounds to support the appealed rejection. Those new grounds should be disregarded. Nothing in the Answer addresses the clear insufficiency of the appealed rejection as shown by the Appeal Brief.

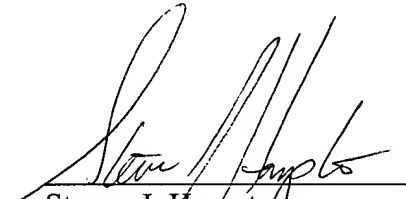
² This is a basis of rejection that also has not before been made and is improper for that reason.
37 C.F.R. §1.193(a)(2)

CONCLUSION

For the foregoing reasons, claims 1-9 are distinguishable over the prior art of record as applied by the appealed rejection and as argued for the first time by the Answer. Reversal of the Office Action's rejections and issuance of a patent on the application are therefore respectfully requested.

Dated: December 30, 2004

Respectfully submitted,



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